

September 2008

Overview

On February 26, 2004, the California Air Resources Board (ARB or Board) adopted the **Transport Refrigeration Unit (TRU) Airborne Toxic Control Measure (ATCM)**. The rulemaking became effective December 10, 2004, and was codified under title 13 California Code of Regulations (CCR), section 2477. The TRU ATCM requires all TRUs and TRU generator sets that operate in California, regardless of where they are based (including out-of-state and out-of-country), to meet in-use performance standards that are phased in beginning December 31, 2008, for model year 2001 and older units. Then, 2002 and subsequent model year units must comply by the end of the seventh year after the model year. All TRUs and TRU gensets must eventually meet the most stringent in-use standard – one that requires a diesel particulate filter that reduces diesel particulate matter exhaust emissions by at least 85 percent. Also, owners of California-based TRUs and TRU gensets must apply for ARB Identification Numbers (IDN) by January 31, 2009. And, operators of California-based TRUs must submit Operator Reports by January 31, 2009. Compliance deadline extensions are not included in the TRU ATCM.

U.S. EPA Waiver

On March 28, 2005, ARB requested the U.S. Environmental Protection Agency (U.S. EPA) to grant California authorization (i.e. a waiver of preemption) under the federal Clean Air Act to enforce the ATCM's in-use performance standards. ARB is not required to obtain federal authorization for those provisions of the TRU ATCM intended for the purpose of acquiring emission source information, such as the facility reports, ARB IDN, and Operator Reports. As of the middle of September 2008, U.S. EPA has not acted on the authorization request. ARB anticipates that U.S. EPA will approve the TRU ATCM waiver application in the near future; however, the timing of the approval is uncertain.

ARB Enforcement Policy, Pending Authorization Approval

Compliance with the first phase of in-use performance standards is required by December 31, 2008. ARB recommends that fleets with TRUs covered by the first phase make plans to comply by December 31, 2008, because we anticipate that U.S. EPA will approve the authorization by the end of 2008, and ARB will commence enforcement of the ATCM starting January 1, 2009. If U.S. EPA does not approve the authorization by December 31, 2008, ARB will not begin to enforce the in-use performance standards for at least 30 days after authorization is issued.

ARB, as part of any enforcement action, will take into consideration good-faith efforts made by the TRU owner to meet the applicable compliance deadline. The lead times for replacement engines and verified diesel emission control strategies (VDECS) are currently three to four months, but this could become longer as fleets place orders. Lead time for installation of replacement engines and VDECS may take one to two months, and fleet owners should factor this time into preparing for compliance. Therefore, as ARB has previously stated in the June 2008 and July 2008 Status Updates, purchase orders should be placed 4 to 6 months in advance of the compliance dates. We note that, at this time, if owners have not already taken these steps to comply, they risk being out of compliance if the authorization is issued before December 31, 2008. ARB reiterates that TRU owners should contact VDECS manufacturers and place orders immediately.

The TRU ATCM is an important part of California's Diesel Risk Reduction Plan. Since the TRU ATCM was adopted, ARB believes that the emissions data collected and the scientific studies completed all show that the health risk due to diesel PM near facilities (and regionally) is much greater than initially believed when the regulation was adopted. A strong link has been established between diesel PM and asthma, respiratory ailments and diseases, heart attacks and heart diseases, hospital admission rates, and death rates.

ARB is committed to protecting the public health and plans to aggressively enforce the in-use performance standards once U.S. EPA has approved the authorization. Penalties up to \$10,000 per day per unit per violation may be assessed if it is apparent that due diligence was lacking. Pending U.S. EPA's decision on the in-use performance standards, ARB Identification Number (IDN) applications and Operator Reports must be completed by the required compliance deadline, January 31, 2009. Until U.S. EPA approves the authorization, these documents will only be used for emissions inventory purposes and will not be used for enforcement of the in-use performance standards. ARB plans to enforce for late compliance of the IDN and Operator Report requirements of the regulation and will continue to enforce for late compliance of the Facility Reporting requirement.

VDECS Verifications

Staff has processed diesel emissions control strategies for TRUs through the Verification Procedure, Warranty, and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (title 13, CCR, sections 2700 through 2710). News about VDECS that can be used to retrofit TRUs is posted on ARB's TRU website at:

<http://www.arb.ca.gov/diesel/tru.htm>.

Recently, the Proventia FTF™ Executive Order for their Level 2 flow-through filter (meets the Low-Emission TRU In-Use Performance Standard (LETRU)) was revised, changing the pre-installation injector maintenance requirement. Rypos, Inc. is the exclusive U.S. distributor for the Proventia FTF, which is verified for use on all Thermo King model year 1985 through 2002 model year engines. Huss, LLC also has a verified Level 3 diesel particulate filter that meets LETRU and the more stringent Ultra-Low-Emission TRU (ULETRU) In-Use Performance Standard. The Huss FS-MK is verified for use on all TRU engines, regardless of model year, but the manufacturer may limit its use if warranted by excessive soot emissions. For details, please see the Executive Orders on ARB's Verification website at: <http://www.arb.ca.gov/diesel/verdev/level2/level2.htm> for Level 2 and <http://www.arb.ca.gov/diesel/verdev/level3/level3.htm> for Level 3. Applications for two additional Level 2 and three Level 3 VDECS have been submitted and are being evaluated.

Alternative Technologies

Electric Standby retrofits for truck TRUs are feasible, available now, and do not require verification.

The multi-media assessment for biodiesel should be completed by the end of 2008 and several biodiesel producers have indicated an interest in submitting an application for verification as a VDECS. Because verification will not be completed by December 31, 2008, B100 is not a compliance option for the first compliance phase, but may be for subsequent phases.

Pure cryogenic and cold plate systems can be used and they are exempt from the TRU ATCM (if there is no diesel engine used) and therefore do not require verification. If a hybrid cryogenic or cold plate system is used (including both TRU with diesel engine and cryogenic or cold plate system), then diesel engine use must be eliminated at facilities to qualify as a compliance option. [TRU Advisory](#) 08-13 explains how the hybrid cryogenic system can be used as a compliance option.

Engine Replacements

Replacing noncompliant TRU engines with a new or newer engine does not meet LETRU, but the compliance date for the replacement engine would be December 31st of the seventh year after the replacement engine's model year. Replacing a noncompliant engine with a rebuilt or remanufactured engine of a newer certified configuration is another compliance option, but again, this just resets the compliance deadline for meeting the TRU ATCM's in-use performance standards. [TRU Advisory](#) 08-05 explains the conditions that must be met when using rebuilt engines and the effective model year of the rebuilt engine for determining the new compliance date.

Availability

Staff believes there will be adequate compliance options available in time for compliance with this regulation and recommends owners take early, proactive steps to comply. A list of companies that are providing compliance solutions for the TRU ATCM is posted on the TRU website: <http://www.arb.ca.gov/diesel/tru.htm>, click on the document link: "TRU ATCM Compliance Option Contacts".

Cost Effectiveness

Cost of compliance for VDECS retrofits range from \$4,000 to \$7,000. Engine replacements range from \$4,000 to \$10,000. Although the cost of compliance is greater than anticipated during rule development, the TRU ATCM's cost-effectiveness, expressed as dollars per pound of pollutant reduced, is still within the range of other diesel emission control measures' cost-effectiveness that have been adopted by the Board. These costs obviously affect a business' profitability and TRU fleets are encouraged to revise their business plans accordingly.

IDN Applications and Operator Reports with ARBER

ARB IDN applications and Operator Reports are due to ARB by January 31, 2009. [TRU Advisory](#) 08-06 (coming soon) explains the information that is needed for each of these requirements. Hardcopy forms will be available for download from the TRU website at <http://www.arb.ca.gov/diesel/tru.htm> by November 2008 for mail-in submittals. Owners may also register their TRUs and TRU generator sets, and submit Operator Reports electronically through the Air Resources Board Equipment Registration (ARBER) Program portal (under construction). Online ARBER submittals may be made starting December 1, 2008. Owners with large numbers of units to register in ARBER may request permission to batch upload large data files. The ARBER Batch Upload Application form will be available for download from the TRU website and ARBER website very shortly. This form includes instructions, terms, and conditions for use of ARBER.

Compliance Assistance Documents

Compliance assistance materials and TRU Advisories are available at the ARB's TRU website at: <http://www.arb.ca.gov/diesel/tru.htm>. A list of TRU ATCM advisories can be found by clicking on the "Advisories" link in the left navigation bar on the TRU website. "TRU Brochure #2" and "TRU ATCM Tutorial" are available in English and Spanish.

For More Information

Past TRU ATCM Status Updates are available through the archive link of the TRU website. If you have questions, please call ARB's toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM). Visit ARB's TRU web site at <http://www.arb.ca.gov/diesel/tru.htm>. You may also send emails to the TRU email address: tru@arb.ca.gov. Regulatory documents may be viewed and downloaded from <http://www.arb.ca.gov/regact/trude03/trude03.htm>.

If you are handicapped, you may obtain this document in an alternative format. Contact ARB's ADA Coordinator at (916) 322-4505 (voice); (916) 324-9531 (TDD, Sacramento area only); or (800) 700-8326 (TDD, outside Sacramento).